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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 32

Application Number: 09/529,289

Filing Date: April 07, 2000

Appellant(s): ALMOG ET AL.

MAILED

OCT 21 2003

GROUP 1700

Paul Fenster
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/15/2003.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-3, 7-12, 14-20, 22-29, 32 and 42.

Claims 30, 37-41 and 45 are withdrawn from consideration as not directed to the elected invention.

Claims 4-6, 13, 21, 31, 33-36, 43-44 has been cancelled.

It should be noted that claim 29 is rejected under 35 U.S. C 112(1) and 112(2) as well as 35 U. S. C 102(b). Appellant's statement that claim 29 is not rejected on the art is incorrect.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is deficient because it includes the subject matter which was not disclosed in the present application such as the underlayer of the sheet of plastic contains reaction products of amino propyl silane.

The following is the copy of the abstract of the priority document of the present application, PCT/IL98/00491, and is considered the correct summary of invention by the Examiner:

A substrate suitable for printing a toner image thereon, comprising: a sheet of plastic; an underlayer coating, on the sheet of plastic, comprising a first polymer material preferably comprising a polymer chosen from the group consisting of amine terminated polyamide, a silane coupling agent and amino propyl triethoxy silane; an overlayer coating, directly on the under layer, comprising a second polymer material and having an outer surface to which a toner image can be fused and fixed, the second polymer preferably consisting essentially of a polymer chosen from the group consisting of ethylene acrylic acid copolymer, polyvinyl pyridine and styrene butadine copolymer.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1-3,7-12, 14-20, 22-29, 32 and 42 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

EP-0458481

Lever et al.

11-1991

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-3, 7-12, 14-20, 22-29, 32, and 42 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
2. Claims 1-3, 7-12, 14-20, 22-29, 32, and 42 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
3. Claims 1-3, 7-12, 14-20, 22-29, 32, and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claims 1, 3, 7-12, 19-20, 28-29, 32 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lever et al.(EP-0458481).
5. Claims 2-3 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.
6. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.
7. Claims 1, 22 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

8. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

These rejections are set forth in prior Office Action, Paper No. 24.

Upon further reconsideration, the Examiner withdraws the following rejections:

The rejection of claims 1-3, 7-12, 14-20, 22-29, 32, and 42 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention; and

The rejection of claims 1-3, 7-12, 14-20, 22-29, 32, and 42 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 23-24 and 28 under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

The Examiner maintains the following rejections as set forth in the prior Office action in Paper No 24:

The rejection of claims 1-3, 7-12, 14-20, 22-29, 32, and 42 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection of claims 1, 3, 7-12, 19-20, 28-29, 32 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lever et al.(EP-0458481).

The rejection of claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

The rejection of claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

The rejection of claims 1, 22 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

The rejection of claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lever et al.

(11) Response to Argument

Response to Argument A

Appellant argues that one skilled in the art would appreciate that amino propyl triethoxy silane (APTS) is a highly active and reactive compound and would react with water or other components, or even water in a humid environment to form reaction products. Appellant submitted the Article “Tailoring Surfaces with Silanes” to support this argument.

The Examiner disagrees. The claims do not recite that the reaction product of APTS is from a hydrolyzed reaction (reaction with water). The specification does not have any description of any kind of reaction involving APTS, whether a hydrolyzed reaction or other forms of reaction involving APTS.

The cited article “Tailoring Surfaces with Silanes” (referred as “article”) indicates that organosilanes may be hydrolyzed depending on how many the hydrolyzable groups and how many nonhydrolyzable organic radical in the silanes (page 36, left column). In fact, the article indicates those silicon compounds that are fully substituted by hydrolyzable groups, if hydrolyzed under carefully neutral conditions (page 36, right column), would yield silicic acid. Accordingly, the hydrolyzed reaction of organosilanes is not an automatic reaction between the

organosilanes and water or even water in a humid environment. The article clearly indicates that under different reaction conditions and with different silane reactants, the hydrolyzed product would be different. Further, the article does not mention the APTS compound and its reaction with water.

Appellant also argues that the outerlayer coating according to the invention may be water-based and one skilled in the art would appreciate that when the outerlayer coating is water-based, the APTS will react with water from the outerlayer coating to form reaction products.

The outer layer coating may be water based, however, according to the specification page 7, the outer layer is coated to the dried underlayer which contains the APTS, and the coating was dried after coating. There is no description in the specification that indicates the APTS in the dried underlayer would react with water or other components, or water in a humid environment to form reaction products.

With respect to the declaration of Yaakov Almog submitted 6/16/2003, the only evidence shown in the declaration is the article of “Tailoring Surfaces with Silanes” which, as stated above, does not described the APTS compound and the reaction product of the APTS as claimed. Even if the reaction product of the APTS is the hydrolyzation product of the APTS, the hydrolyzation reaction is not an automatic reaction; it requires certain reaction conditions and certain reactants. None of these were described in the specification. Even the article cited in the declaration does not provide sufficient information regarding the reaction product of the APTS.

With respect to the argument that the reaction product terminology is inherent in the specification; as stated above, the specification does not describe the reaction product of the APTS as claimed. Even if the reaction product of the APTS is the hydrolyzation product of the

APTS, the hydrolyzation reaction is not an automatic reaction, therefore, it cannot be considered as inherent in the specification.

Response to Argument B

The corrected statement in section 5 of the final rejection cited by appellant should read the “ polymer material which has crosslinkable functional groups, such as amine and trihydroxy silyl groups (page 3, lines 2-9). Appellant has missed the “silyl” between the “trihydroxy” and “groups” in the statement.

A compound containing amine and trihydroxy silyl groups is a typical hydrolyzed product of amino triethoxy silane since the triethoxy groups attached to the silicon would react with water easily and form trihydroxy groups. Therefore, the product disclosed by Lever containing amine and trihydroxy silyl groups is definitely a hydrolyzed reaction product of ATPS.

It should also be noted that since the reaction product in the claims is not limited to any specific reaction and condition due to lack of description in the specification, the reaction product could be anything which may or may not have the silane group.

With respect to the argument that the backbone of the amino propyl triethoxy silane as claimed was not taught by Lever; the claims do not recite any backbone of the amino propyl triethoxy silane. The claims merely recite the “amino propyl triethoxy silane and the reaction product of the propyl triethoxy silane.” The argument with respect to the “backbone of the amino propyl triethoxy silane” is not within the scope of the claims.

Response to Argument C

It is the Examiner's understanding that the argument is referring to the rejections of claims 1, 22 and 42 under 35 U.S.C. 103(a) as being unpatentable over Lever et al and not under 35 USC 102(b) as cited by the Appellant.

Appellant argues that the backbone of the amino propyl triethoxy silane is not mentioned. The claims do not recite any backbone of the amino propyl triethoxy silane. The claim merely recites the "amino propyl triethoxy silane and the reaction product of the propyl triethoxy silane". The argument with respect to the "backbone of the amino propyl triethoxy silane" is not within the scope of the claims.

Appellant also argues that Lever teaches "the lacquer layer comprises suitable resins, including copolymers of acrylic and methacrylic acid and esters thereof that may contain crosslinkable functional groups such as amine or triethoxy silyl groups" and asserts that "the underlayer coating may contain one or more of the identified crosslinkable functional groups, the materials are not based on acrylic or methacrylic acid or esters thereof."

The claims do not set the limit that the underlayer polymer material should not be the acrylic, methacrylic acid, or esters. The claim merely recites the "amino propyl triethoxy silane and the reaction product of the propyl triethoxy silane." Accordingly, Appellant's argument is not within the scope of the claims.

Appellant also argues that the materials that were claimed are the result of substantial experimentation, and the coating must meet a number of requirements and there is no expectation that a material with a different backbone would have similar properties.

Again, the claims do not recite that the polymer material has a different backbone and meets a number of requirements. The argument is not commensurate in scope with the claims.

Appellant cites *In re O'Farrell* and argues that the "Examiner has proffered no *prima facie* evidence that any trihydroxy silane and any amine terminated material will act equally well" and "the prior art could at most provide only 'obvious to try' for the presently claimed material, which are just two materials among very many materials that one might try."

Lever specifically teaches that the underlayer coating comprises polymer material which has crosslinkable functional groups, such as amine, amide and trihydroxy silyl groups. Polymer material with amine and trihydroxy silyl groups has similar structure as the claimed amino propyl triethoxy silane. In fact triethoxy silane and trihydroxy silane are interchangeable in the hydrolyzed reaction. Materials containing triethoxy silane may also contain its hydrolyzed form, trihydroxy silane. Accordingly, these two compounds are art recognized functionally equivalent compounds and it would have been obvious to one of ordinary skill in the art to use amino triethoxy silane compounds in Lever's underlayer with the expectation that similar compound would have similar properties and utilities.

Lever specifically teaches the underlayer coating comprises polymer material which has a small numbers of the crosslinkable functional groups, such as amine, amide and trihydroxy silyl groups. Lever does not teach a large number of possible chemical compounds as indicated by the Appellant.

Response to Argument D

Rejection of claim 28 has been withdrawn.

Response to Argument E

Rejection of claims 23-24 has been withdrawn.

Response to Argument F

Claim 32 is a product by process claim. Claim 32 recites the product made by the method recited in claim 30 or 45. The product recited in claim 32 is the same product recited in claims 1 or 42, and therefore, claim 32 is also rejected alone with claims 1 and 42 over Lever.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Examiner
Art Unit 1775

LX

lx
October 20, 2003

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